

# AMATEUR RADIO



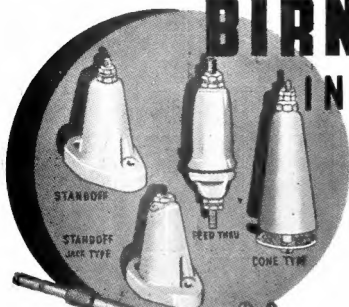
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**JUNE, 1939**

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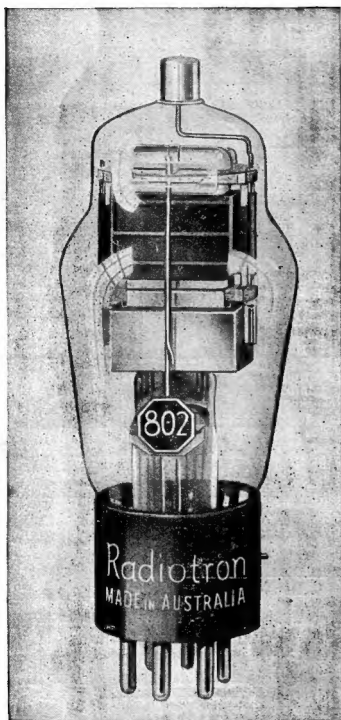
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# RADIOTRONS



# EDITORIAL

On the occasion of the installation in office of the Federal councillors and executive by their respective divisions, it would appear an opportune occasion to remind our readers of the responsibilities of these offices. It is obvious from the decisions reached at the Federal Convention held this year that all divisions considered the Federal Council to be the paramount authority in Institute affairs. The Federal Executive, however, has the responsibility of administering the various matters that are decided upon from time to time. The decision reached at the convention to utilise our magazine, *Amateur Radio* as the mouthpiece of the Federal Council will serve to indicate the importance attached to a regular magazine in the progressive life of the Institute. It is intended to use the magazine to keep the Institute generally informed of the progress achieved in Federal organisation and development. Part of the Federal Programme this year includes the co-ordination of general experimentation, and the placing on a firm footing of national emergency organisation in addition to the protection of vital Amateur interests. As the establishment of Federal Executive happily coincides with the location of the central administration of the Wireless Branch a closer and more personal liason will react to the mutual benefit of all.

W. R. GRONOW,  
Federal President.

## THIRD PARTY TRAFFIC

One of the most important regulations designed by the Department to protect the revenue received by the authorised communication systems appears to be more frequently broken these days than was the case

years ago. It is strange that some experimenters think that by disguising their calls and thus hiding their identity that they, like the ostrich with its head in the sand, will be passed unobserved.

When obvious third party traffic is being handled from one overseas aircraft station via another station the regulations become more honourable in the breach than the observance.

Apart from being foolish as well as being a breach for which there is no excuse, this handling of third party traffic becomes decidedly dangerous, when one's licence is in jeopardy.

The operator of the originating station is no friend of yours, if he will not understand your polite refusal to take his messages for the simple reason that "You are not allowed to handle third party traffic."

## FEDERAL EXECUTIVE, 1939.

Federal Headquarters now being located in Melbourne the following officers have been elected by the Division:—President, Mr. W. R. Gronow (VK3WG); vice-president, Mr. V. E. Marshall (VK3UK); secretary, Mr. J. G. Marsland (VK3NY); publicity officer and treasurer, Mr. R. H. Cunningham (VK3ML); QSL officer and contest manager, Mr. R. E. Jones (VK3RJ). The postal address is Box 2611W, G.P.O., Melbourne.

## FEDERAL COUNCILLORS.

N.S.W., Mr. J. Corbin; Victoria, Mr. V. E. Marshall; Queensland, Mr. R. Thorby; West Australia, Mr. K. S. Anderson; Tasmania, Mr. H. M. Moorhouse. No advice has yet been received from South Australia as to their appointee.

## Modulation in the Plate, Grid or Cathode

(By R. M. Huey, VK3UE ex-VK2HU)

There seem to be three commandments for successful phone operation, namely

(1) Thou shalt not be unneutralised.

(2) Thou shalt not over-excite with excessive R.F. voltage.

(3) Thou shalt not over-modulate with excessive audio voltage.

This article will deal mainly with the second of these commandments, making reference to plate, grid and cathode types of modulation. Although mainly theoretical in nature,

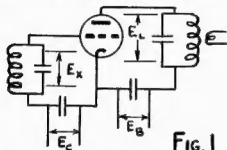


FIG. 1

it is hoped that some of the active phone men may be stirred to experimental verification of the theory presented below. There is a lot of work to be done and published yet on good amateur phone.

### (1) Unmodulated Amplifiers.

First let us consider the conditions necessary for efficient operation of an unmodulated amplifier operating class "C." Referring to Fig. 1 (neutralising arrangements being neglected)  $E_X$  is the peak value of the driving voltage,  $E_L$  is the peak R.F. voltage built up across the plate tank (to which the antenna load is coupled),  $E_B$  and  $E_C$  are plate and bias D.C. voltages. Fig. 2 represents the conditions of the various voltages and currents in the circuit of Fig. 1. The blocking condensers are large enough so that no appreciable R.F. voltage is built up across them.

It must be realised now that the voltage at the plate of the tube oscillates from the steady D.C. value of  $E_B$  up to nearly twice  $E_B$  and down to nearly zero. It must also be realised

that the voltage  $E_L$  builds up as a sine wave **not** because it is an amplified version of the grid excitation, but because the tank circuit is highly oscillatory and the pulse of plate current once per cycle maintains it in a steadily oscillating condition. This, incidentally, is the reason why the antenna must not be coupled too tightly to the plate tank, since a very tightly coupled antenna renders the tank circuit no longer highly oscillatory, introducing spurious and harmonic frequencies.

Returning now to Fig. 2, we observe that when the grid approaches a positive value the plate voltage at that instant is very low (hardly greater than the value  $E_{min}$ ) consequently the cut-off value is only a few volts negative and plate current only flows as shown, when the grid voltage exceeds cut-off. Cut-off voltage is shown dotted and varies with the plate voltage. With normal adjustments the interval of plate cur-

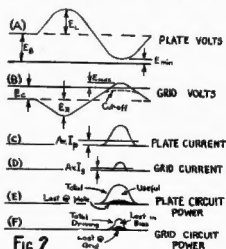


FIG. 2

rent flow is for about one third of the cycle only, or about 120 degrees. Grid current will flow while the grid is positive and the power to supply this has to come from the exciter stage. The power output from the exciter is rectified by the grid and dissipated partly at the grid and partly in charging up the bias pack.

We come now to an important point, namely, that if  $E_{max}$  (the positive voltage on the grid) exceeds the plate voltage at that instant ( $E_{min}$ ), excessive grid current will flow unless prevented by a grid leak or a bias pack of poor regulation, which would automatically increase the bias  $E_c$  if this bad operating condition were reached. Anyway, to save burning up the grid we must have  $E_{min}$  fairly high (say 15 per cent. of  $E_B$ ) and limit the peak grid

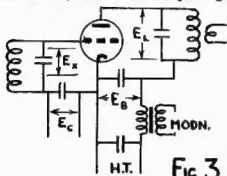
about 70 per cent. In this article only the tube efficiency will be considered.)

### (3) Poor Efficiency.

Poor efficiency will result if the grid is not driven sufficiently positive since then the pulses of plate current will be smaller and a smaller R.F. voltage  $E_L$  will be built up across the plate load. Thus the value of  $E_{min}$  will be higher and the tube efficiency lower. Poor efficiency will also result if the grid bias  $E_c$  is made too large for the available excitation  $E_x$ , thus not allowing the peak grid voltage ( $E_{max}$ ) to become sufficiently positive. In practice the regulation of the exciter stage helps here since it allows  $E_x$  the R.F. swing to increase if  $E_{max}$  (and hence  $I_G$  and the grid driving power) is too small.

### (4) Plate Modulation.

For successful plate modulation of a class "C" amplifier the conditions of operation have to be slightly modified. Referring to Figure 3, the effect of plate modulation is to vary  $E_B$  at an audio frequency rate. Notice that the plate blocking condenser must be small enough not to bypass the highest audio frequency, and that the final filter condenser of



**FIG. 3**

voltage to less than this figure. Typical figures would be:—

Plate volts . . . . .	$E_B$ 500 volts
Grid volts . . . . .	$E_C$ 200 volts
Peak RF across tank	$E_L$ 425 volts
Peak RF grid excitation . . . . .	$E_x$ 250 volts
whence $E_{min}$ equals 75 volts; $E_{max}$ equals 50 volts.	

### (2) Good Efficiency.

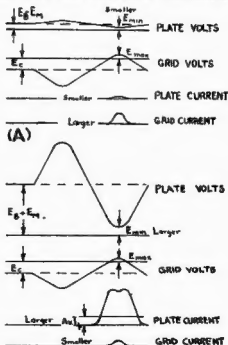
The average plate current  $I_B$  (shown on the DC plate milliammeter) will be very much lower (perhaps 20 per cent.) than the peak of plate current as the pulse of current lasts for such a short portion of the cycle. (Incidentally this is why the total emission capability of the filament has to be made so high by the manufacturers.)

Assuming that the current pulse lasts for 120 degrees we can assume (for simplicity) that the plate voltage is constant at the value  $E_{min}$  all the time the plate current is flowing. The power lost at the plate is then  $E_{min} \times I_B$  and since the input power is  $E_B \times I_B$ , tube efficiency equals  $E_B - E_{min} \times 100$  per cent. (approx.)

$E_B$

or about 85 per cent.

(Notice that a further 15 per cent. or so of the R.F. power is dissipated in the tank as coil and condenser losses, giving an overall efficiency of



**FIG. 4**

the power supply must be large enough to act as a bypass for the lowest audio frequency.

Turning to Fig. 4 (a), we see the conditions during one cycle of R.F. when the modulation is at a negative peak. The effective EB is low and the available amplitude of oscillation EL across the plate tank is small. Further the value of Emin (the lowest voltage to which the plate swings) is smaller than for the unmodulated condition. This means that it is now very easy to over-excite the tube at this point in the modulation cycle. Furthermore, the bad effects of Emax (the largest

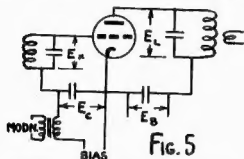


FIG. 5

positive grid voltage) exceeding Emin will show up, not merely as overheating of the grid and secondary emission from the plate (tending to give blue glow and liberate gas), but also as distortion, flattening the peaks of modulation.

All this means that the value of Emin must be higher during the unmodulated state than in a simple telegraphy transmitter. This may be achieved by decreasing both the excitation and the bias from the value used to obtain best efficiency under C.W. conditions. The plate current with the antenna disconnected should be higher for phone operation than for C.W. In the interest of good phone we must sacrifice a few per cent. of the efficiency obtainable in a C.W. final stage.

Referring to Figure 4 (b) we see the conditions existing over one cycle of R.F. at a positive peak of modulation. Here EB is nearly double its unmodulated value and EL is consequently much larger. Also Emin is higher than before. Consequently we can now stand a higher value of Emax at the grid and the exciter will deliver a slightly higher voltage than before. This good effect may be increased somewhat by getting some of our bias Ec from a small grid leak bypassed for R.F., but not for audio frequencies.

It is easy to see that the above mode of operation can be completely upset if there is any R.F. feedback from the plate circuit to the grid circuit or the exciter unit. Hence the need for very careful neutralisation of the modulated amplifier. Poor neutralisation can cause more trouble in the way of distortion and spurious radiations than any other single misadjustment.

## (5) Grid Modulation.

Modulation of a class "C" amplifier can be effected by injecting the audio voltage into the grid in series with the bias Ec as shown in Fig. 5. This is sometimes known as the van der Bijl circuit. The effect here is that Ec is varied at an audio frequency rate. The conditions at a negative peak of modulation are illustrated in Fig. 6 (a). The operation is essentially that of an under-

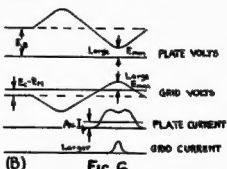
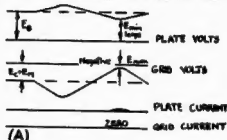


FIG. 6

excited class "C" amplifier with resultant low output and poor efficiency. Notice that Emin is practically equal to EB so at this point of the audio cycle, the tube efficiency is very low indeed. The conditions at a positive peak of modulation are illustrated in Fig. 6 (b). Here plate current flows for the whole of the half cycle and operation is approximately class "B." It can be seen that in this case it is very easy indeed to over-excite the amplifier as Emax can easily rise to a quite high positive value. In order to avoid this it will be necessary to limit Emax to quite a low value in the unmodulated



condition. Hence the efficiency is going to be quite poor compared to a C.W. final stage. It is unlikely that the efficiency of a grid modulated amplifier (adjusted so that distortion is not too serious at high modulation depths) will be better than about 60 per cent. In addition the adjustments for linearity of modulation will be considerably harder to maintain. Notice that a considerable audio frequency component of plate current will exist, due to rectification. This component must be effectively bypassed through the final filter condenser and should not be allowed to build up a voltage across any resistance or inductance in the plate circuit before it gets back to the filter condenser.

### (6) Cathode Modulation.

Modulation may also be effected by injecting the audio into the cathode circuit, where it will vary both EB and EC at an audio frequency rate. This form of modulation possesses largely the characteristics of grid modulation, but has certain advantages over that method. The circuit and conditions of operation are shown in Figs. 7 and 8. One point to be watched is the possibility of the higher audio frequencies being cut off by the grid and plate blocking condensers. The conditions of operation may be followed by considering them as a modification of the conditions shown in Fig. 6 for grid modulation.

At the negative peak of modulation (Fig. 8a) the tube is operating as an under-excited class "C" amplifier with even worse efficiency than in Fig. 6a. Fortunately this does not matter very much since the input at

this instant is low. At the positive peak of modulation (Fig. 8b) the efficiency is better than in Fig. 6b since EB is smaller. The amplifier at this point is not quite class "B." This means that the overall efficiency of a cathode modulated amplifier would be slightly better than in the case of grid modulation, for the same allowable distortion. At a guess this figure might be 65 to 70 per cent.

In addition the audio component of the plate current due to rectification will build up a voltage across the impedance of the modulating source. If the impedance is purely resistive then the voltage built up will be degenerative and the effect will be similar to applying a certain amount of negative feedback, i.e., distortion should be reduced (the magnitude of this effect is doubtful without calculation).

If, however, the impedance of the modulating source is not purely resistive the feedback will be out of phase with the original voltage and distortion will be increased. At low frequencies this could be caused by insufficient inductance in the modulation transformer (poor bass response); at high frequencies by the shunting effect of self-capacity, aggravated by the grid and plate blocking condensers. The author would like to have these conclusions verified experimentally before being too sure of their importance or otherwise. The experience of VK3SG (April Amateur Radio) seems to confirm them, however.

### (7) Effective Power of Carrier.

At 100 per cent. modulation depth, one third of the total power is concentrated in the sidebands. In plate modulation this extra power is

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supplied from the audio tubes. In grid and cathode modulation it is not. Hence we may tabulate as below for a final amplifier drawing 70 mA.

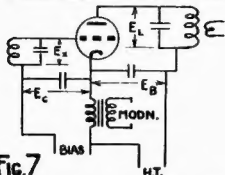


FIG. 7

at 500 volts, and operated under about the best conditions attainable for efficiency consistent with reasonable distortion.

### (8) Summary.

In every way plate modulation is

(in VK3SG's transmitter 80v. grid leak bias against 50v. from the bias pack) probably helps to make adjustment less critical. His practical experience points to over-excitation as being the worst possible fault which can occur, and one which can be very easily encountered.

The correct excitation for CW operation under efficient conditions is definitely overexcitation for phone operation. Another tendency about which the author is suspicious is the use of power transformers for coupling modulation into the final amplifier. The audio characteristics of most power transformers must be just "lousy" (particularly at the higher frequencies).

In conclusion the author hopes that this article may be of assistance to their endeavour to get a decent phone on the air. In view of

	CW	Plate Modn.	Grid Modn.	Cathode Modn.
Input from B Supply . . . . .	35	35	35	35 watts
Tube Efficiency . . . . .	90	80	60	70%
Tank Efficiency . . . . .	85	85	85	85%
Carrier Power (unmod.) . . . . .	26.7	23.8	17.7	20.8 watts
Carrier Power (100% mod.) . . . . .	—	23.8	11.8	15.2 watts
Total Power . . . . .	—	11.9	5.9	7.6 watts
Sideband Power . . . . .	—	35.7	17.7	22.8 watts
Requd. from Modr. . . . .	—	11.9†	0†	2† losses
POWER EFFECTIVENESS. . . . .	—	100%	49%	64%

The above figures speak for themselves.

superior to grid or cathode, except in the question of initial cost. If it is financially possible, it is desirable to install plate modulated phone. The trend of American usage is more and more towards plate modulation wholly and solely, together with some form of over-modulation indicator.

Where finance does not permit the use of plate modulation it is wise to pay a good deal of attention to design and operation if either grid, cathode or suppressor grid modulation is employed. Unfortunately, if finance is a major consideration the stations most likely to turn out poor phone (i.e., those not plate modulated) will not have much or any equipment for checking correct operation.

As regards the choice between cathode and grid modulation, cathode should win hands down, although it can suffer even more from maladjustment than can grid modulation. The use of more grid leak to some of the budding phone opera-

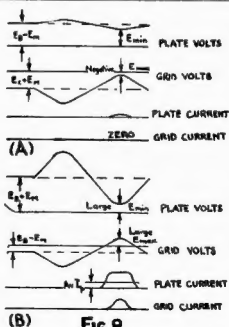


FIG. 8

the more serious attitude taken recently by the R.I.'s towards bad phone, it will be necessary for amateur phone to watch its step.

# For QSL Cards

see

## Back Cover

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## Contest Notes

(R. E. Jones, VK3RJ, Federal Contest Manager.)

### VK-ZL Contest Results

The contest manager, Mr. Ryan, has pointed out that the list of disqualified stations was omitted from last month's issue. At his request they are published below.

1938 VK-ZL DX Contest:—Senior disqualifications: VK2TF, VK5ML, VK7AB, VK2JX, VK3MK, VK2AFJ, VK3Q, VK3VQ, ZL1LC, ZL1LM, ZL2VM, ZL1GX. Junior disqualifications: VK2ADE, VK2HF, VK2DG, ZL1MR, ZL2QA.

### VE 160 MX CONTEST, 1939.

This contest inaugurated in 1938, met with such great success that it is proposed to hold a further contest in 1939. The contest will take place on Saturday, 2nd September, 1939, commencing at 1200 GMT and continuing until 2200 GMT. Rules are as follow:—

1. The contest is open to all licensed amateurs, but only members of the W.I.A. or N.Z.A.R.T. are eligible for awards.

2. The test is of a contact nature, and with each contact a six letter cypher must be exchanged before a point is scored.

3. The cypher to be exchanged will consist of six letters, the first three being chosen by the entrant to be used as his identifying letters throughout the contest and the remaining three are to be the first three letters of the last station contacted. The initial cypher will consist of three letters of the originating station, followed by AAA, for example, XYZAAA.

4. Stations with which an entrant can work are those beyond a radius of 200 miles, but within Australia, New Zealand and New Guinea.

5. Each station can be contacted once only during the contest.

6. Districts are as follow:—VK2, 3, 4, 5, 6, 7, 8, and 9, ZL1, 2, 3, 4.

7. All transmissions to be in accordance with the Radio Regulations.

8. Scoring.—One point will be scored for each 200 miles covered in the contact.

9. The total number of points so obtained will be multiplied by the number of districts worked.

10. All logs must reach the contest manager, W.I.A., Box 2611W, Melbourne, by 14th October, 1939. The logs must contain:—(a) Time; (b) call sign of station contacted; (c) cypher sent and received; (d) contact points claimed, number of districts worked and total score.

11. Certificates will be awarded to the leading station in each district, and a special certificate will be awarded to the outright winner.

### Federal and Victorian QSL Bureau

(R. E. Jones, VK3RJ, QSL Manager)

A list of cards on hand for VK3 stations will be published in these notes in the July issue.

W9VKF, L. Morrow, of Minneapolis, Minn., U.S.A., writing VK9RM, says, "This is the first time in my life I have ever heard a VK9 and it was my luck to have our QSO ruined by one of those doubly-damned electric razors. When the user stopped the contraption you had gone." The price of progress, especially to morning DX merchants.

Claimants for Century DX Club awards should carefully check their entries with the official list of countries as the entry is gone through with a fine tooth comb and doubtful countries unceremoniously rejected.

It is good policy to throw in an extra couple of countries for good measure, just in case.

The QRA of TF3F is required by this bureau, also any record of anyone receiving a QSL from J8CD.

Melbourne was honoured during late April by a visit from Arthur, VK4AW, and Bill, VK4RY.

During the absence of Buck, VK7JB, in Sydney, Joy, VK7YL, is conducting the VK7 QSL Bureau.

Another old timer to stage a comeback is Oscar Alder, VK4JB. Had a QSO recently with him, exactly ten years after our first contact. Oscar's original hand drawn QSL card is one of my prized possessions.

Two Czech hams, Arnost Anscherlik, OK1FZ, 26 years old, and OK2OR, Egon Hein, 24 years of age, are keenly desirous of migrating to Australia. Both are "harmless politically" and are advanced technicians. Arnost is an electrical engineer specialising in HF work and the construction of commercial broadcast transmitters, whilst Egon, besides being a third year medical student, is an expert in the manufacture and sale of liqueurs and spirituous

drinks. Both speak and write English well, besides having a good knowledge of the French Czech, German and Slovakian languages. Anyone who can help these chaps realise their ambition please communicate with this bureau.

### Victorian Country Convention

The Eastern Zone Convention to be held on June 10-11 at Sale promises to be the best yet.

It will be the King's Birthday week-end, and should be a good opportunity for a good holiday.

Besides visiting 3TR and 3GI, there will be an opportunity to visit the Government oil bores, sugar beet factory and other places of interest.

An interesting agenda for discussion is also being arranged. Bring your YL or XYL and make a holiday trip to Sale for the Convention.



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## 56 MC in VK6

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### SUCCESSFUL FIELD TEST.

(By VK6WZ.)

You couldn't call it a "field day" because it spread over more than forty-eight hours; you couldn't call it a contest because it was non-competitive; you couldn't call it a portable test because most of them took their a.c. powered crystal controlled gear along and set it up in the guests houses, private homes and so on. But—you're entitled to call it a success! And a triumph for united and unselfish co-operation.

For a long, long time the Dx record on 56 mc in VK6 stood at about 5 miles. That distance was set up shortly after the first five metre work began years ago. It was only recently that new blood plus old-timers plus crystal-control plus efficient receivers plus enthusiasm rocketed that record up to eighteen, nineteen, twenty and more miles. These increases in span took place during the April 2 field day. What was to be done? Leave it at that or work harder? They worked. 6LW filled his car with five metre gear and batteries and made mobile tests in the Darling Ranges with 6BB, 6BW, and 6SA. They felt confident that the newly established 20 miles or so record would be short-lived. And so the idea of the long week-end test was born.

#### The "Field Test."

On Saturday, 29th April, cars and vans of all shapes and models made their way to selected spots around the metropolitan-suburban and near-country districts about Perth. 6BB and party went to Scarborough on the coast, north of Perth. 6BW made for Kalamunda where a commanding site had been chosen overlooking the coastal plain. 6GB set off in a car—originally planning stops along the road to Northam, but making last minute changes in plans. 6GM chose Safety Bay, another seaside resort, but this time south (considerably so) of Perth and 6LW erected a sta-

tion on the Toodyay road at Red Hill. The idea was to have all stations operating by 6 p.m. on the Saturday and keep going for forty-eight hours with relays of operators and each station taking a specified ten-minute listening period in each hour.

Between six and seven all stations got on the air and for a while spasmodic QSO-ing went on without adherence to the schedule but to allow a check to be made on gear and get it in working order. One of the first contacts was that between 6BB and 6ZX who had been working feverishly on gear to take part. He told 6BB that he was at home but hoped to go out the next day with r.c. super and stabilised transmitter. As Saturday night wore on stations settled down to regular calling and listening periods. Up to this time nothing had been heard of 6GM. Were they on? Nobody knew.

Meanwhile 6GB's party ("mobile" unit of the scheme) had decided against Northam and set up at Bindoon. Here calling and listening skeds were kept, but absolutely nothing was heard. During the early morning watches faint carriers with no discernible modulation were heard, but that was all. Next morning, one of the operators in the party (6FR) went in one of the cars to test, taking a transceiver and travelling about 12 miles. Results were poor. At 11 a.m. on Sunday the party decided to quit Bindoon and made for Bullsbrook, the location of the R.A.A.F. Pearce field. There from 3 p.m. onwards, QSO's began which were to play a big part in the success of the test.

#### The First Night.

At the other stations the schedule was observed in various ways. 6BW with his 47 watts input to an 809 alternately played recordings, called

and listened all through the night with negative results. 6BB heard him and called several times, but was unrewarded. At 2 a.m. 6BB and 6WZ decided that little could be done by waiting up all night and so the station closed down. 6LW, a fixed station using more or less portable gear and depending upon portable power, had trouble with low battery voltage and the genemotor, but when possible calling and listening skeds were kept. A dipole and two  $\frac{1}{2}$  waves in phase made up the antenna gear, but the dipole gave the results.

Still no word from 6GM when Sunday dawned. As QSO's were made operators asked each other about the Safety Bay station. It hadn't been heard. Perhaps they'd had trouble and been unable to start.

Just as surmise was at its height 6GM himself and one of his operators (6MW) arrived on the scene at 6BB. They'd been on all night, except for a period when a transformer blew up, but had heard nothing. Thinking their sigs were being heard and answered and that perhaps their receiver was at fault the decision was made to visit 6BB and find out. They were told the story and departed, picking up some timber on the return journey, finally arriving back with the determination to raise the dipole a few feet, only to be told that in their absence the first contact had been made—6GM-6LW, a distance of about 38 miles and a new record.

## The Record.

With the 6GM antenna raised to about 35 feet, QSO's began in earnest and soon a new record, THE record, was set up when 6GM contacted 6GB. The two most isolated stations had worked! Distance, about fifty miles. Power, at 6GB 16 watts, at 6GM 15. Two new records in one week-end. When it was all over and the results known the unanimous opinion was that it was well worth while. Those who took part were:—At 6BB: 6BB, 6EI, 6KW, 6RU and 6WZ; at 6BW: 6BW, 6KS and friends; at 6GB: 6DF, 6FR, 6GA, 6GB, and 6MY; at 6GM: 6GM, 6IG, 6JG and 6MW; at 6LW: 6AF, 6LW and 6RB (6ZX operated alone for part of the week-end and home stations 6CP and 6SA were active part of the time).

At a special meeting of five-metre experimenters held shortly afterwards the decision was reached to make further efforts to extend DX on five. To this end a tentative scheme is in skeleton form for August when stations, instead of being formed roughly in a circle, will be set up (if possible, power supplies permitting) in a line 150 miles long.

If modern gear and enthusiastic co-operation can do anything, look out for more records! 56 mc is going places!

## Victorian Northern Zone Convention (By VK3MR.)

This zone held its second convention at Bendigo during the last week-end in April, the first being held at Ballarat last year. All voted it to be the biggest and brightest of country conventions, and was attended by some forty-three hams from all parts of the State as well as many visitors from the city, which included Mr. Gronow (3WG), our president, and who is also the Federal President, and other members from the Council.

Proceedings commenced at 6.30 p.m., Saturday, with an excellent dinner at the Family Hotel, after which we all adjourned to the commercial room, where the meeting was held. Mr. P. Dunne, representing Mr. Martin, from the Wireless Branch of the P.M.G.'s Department spoke at some length on the regulations in existence, and was able to clear up many points which were not fully understood. It was very gratifying to see that the department was in sympathy with us, and a friendly relationship existed.

Mr. Plowman, father of 3QC, gave a very interesting talk on Central Australia, and interwound the past and present methods of communications with his story, which dated back to 1912. He was very proud to know that a ham, Mr. Alf Traeger VK5AX, was responsible for the introduction of the pedal stations in operation. 3WG, who is on the technical staff of the Inland Mission continued the story, which was of great interest.

(Continued on page 15.)

## 28 and 56 M.C. Notes

(A. Pritchard, VK3CP.)

We have had a month of interest this time and ten has kept us really busy. There is quite a lot of activity in the States VK2, 3 and 5. Monday, 8th May, gave us a thrill for short-skip work and Reg of 3XP deserves the credit for the evening. Around 7 p.m. 3XP heard many VK2's with exceptional strength on 20 mx, so on calling VK2ADT suggested trying 10 mx, with a fair contact on changing down. Before the evening was out, i.e., 11.30 p.m., 3XP had 3CP, 2ADT, 2UC, 2AIL, and 2ADU all in a six way round table contact and did we enjoy it! All signals were between r7-9 on peaks with patches of high speed-fading. This Liamore gang certainly make a good short-skip distance from VK3 (being 500 miles north of Sydney) and incidentally this should be an ideal distance for 5 meter dx work. We all remarked how important it was for more chaps to get on 10 during the evenings and keep a look out. Apart from the wonderful signal strength each end, it would relieve the hopeless mess on 20 meters. Also some of those signals signals that seem to be all 2nd harmonic which unfortunately for us land in the low freq. end of the band.

VK2ADT uses an 801 in the final with a vee beam having two full waves at 20 mx. 2UC also has an 801, 2AIL a doubler 809. 2ADU had the most outstanding signal here and was the same as a local. Frank has quite a nice line up, being a 6L6 co, 2-6L6 doublers, T20 final. The modulator has a GT3 xtal mike into a 6C6, 76, 42's PP into 809's Class B. The rx has 11 tubes plus a pre-selector also, not forgetting an Rmeter. The 20 mx antenna has two  $\frac{1}{4}$  waves in phase with two more as directors, which makes it hard to account for the remarkable sigs. as we are back on.

During the same evening PK1VM qso VK5IT was r7; VK5ZU was also heard, to gether with XZ2JB, the latter being r8 here. Low power will

do quite well and the following chaps are using between 12 and 20 watts for their portable rigs:—  
 KONEB is using a 6V6 co, T21 final, 12w, 6L6 mod. and a long wire antenna gives good sigs. W3ICR's portable in the car has 20w input and gave r7 sigs at midday here on Sunday, 20th May, his rig has 6J5G 10 mx xtal, 807 pa modulated by 6N7 connected in parallel and 6N7 running Class B, all powered from a Vib. supply and 6 volts. The antenna is a  $\frac{1}{4}$  wave rod on the back of the car; the rx has an 1851, 6J8G converter in front of the car radio. K6RFU has 15 w from a 6F8 co, HY60pa, xtal switched to either 10 or 75 mx, the mod. 6F7, 6L6, 136ft. flat top antenna. W6DJZ also has a neat car outfit 6C5 40X (sure-fire circuit) 6L6 doub. 10 mx, 807 pa, 6N6G mod. A convertor having 6J8G and 6K7 is used ahead of the car set. W5FSU using a pair of 6L6's final and 210's class B, 35 watts input, had r8 sigs. at 8.30 a.m., Sunday, 30th April, from a 3 element close spaced beam.

3YP is in full swing again and the first six contacts were all over r9 on R meter readings from the States. VK3BQ and 3YP have been improving their receivers, with the addition of R meters in the 2nd det cathode circuit. Max has a 0-1 ma, R meter really giving results with a type 77, special anode bend rect. tube. The circuit constants are 100,000 ohms plate load and 10,000 ohms de-coupler; 100,000-50,000 ohms divided combination for the screen, 240 volts on the former, latter to earth; 15,000 ohms cathode bias res., giving a standing current of point 27 of a mill. By using this plate load, each 100th of a mill plate current rise on sigs, gives 1 volt across the grid. of the following audio valve, raising the needle to point4 gives good speaker strength (13 volts being developed without account for losses), yet sigs from W6POZ and W6PMB put the needle hard over.



## DX Notes

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by VK3MR

It has been an ambition of mine to handle a rotating beam that I could squirt in any direction and melt the grid in the RF tube of the fortunate (?) ham who happens to tune to 14,300 kc. My hopes were realised early in May, when I spent holiday with 3BM—even to the RF tube! There I saw Vee Beams de luxe, Vee beams on all continents, the European one having 1 half waves per leg on 14 mc. Bruce has a rotating switch to select any ant. for his receiver, as well as the transmitter, and it is amazing to hear how the signals rise in strength as the correct aerial is used, and the unwanted signals disappear. It's great to have an aerial on which you can't hear North America and only Europeans and S. Americans can be heard and worked. I forgot to mention that the RF tube was in 3BM's receiver!

Conditions on 20 are not the best by any means, although a few good 'uns are to be worked. 7 mc shows signs of coming to life in the early morning for Europe, but the QRM there seems terrible, and reliable contacts are rare. VK2AHM is another ham who lives 100 miles from the nearest town, and can also improve the skyline with Vee beams. Jeff, with his 5 watts added another 5 countries to his list by working GW, CM, KB6, SP and UP5PZ. KD6QSX requires 5 cents for a QSL card! 2AHM knocks off 20 LU's in a quarter of an hour! I can offer a good suggestion to you city shaps who want to use a VEE beam—just shift your QRA—simple isn't it? VK3HG is still keeping his end up in this DX racket. Reports working TF3F, 14,400 kc., 4 p.m., making hi m96 countries now. Neil considers CE and HC as "just contacts"—what a man! A new one popped up during the afternoon on 20 — TA1AA. Chirpy D.C. wandering around near the LF side of fone band—he worked 3BM. By the way, 3BM has a key in the shack after all!

Also his B.F.O. works, and very well, too! Those looking for Russian contacts can look for a solid T9 sigs. on about 14,400 kc. during the afternoons from 2 p.m.; that is, Russia in Europe, and coming the long way round. SP, OZ and G's are plentiful during any afternoon on 20 CN1AF is now EK1AF, which is the new prefix and is now recognised. 3MK. 2ALU is reported to have worked 750 Yanks in recent test, using a Vee of fencing wire as used by 2AHM.

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(Continued from page 13.)

Bruce Mann gave some very interesting dope on Vee Beams, which excited all DX men there. He gave some sound practical information, borne out in actual practice.

Mr. Trebilcock (3TL), the president during last year, retired, and Mr. E. Perkin was elected in his place, and Mr. Mann (BM) was elected secretary in place of 3HX. Both these retiring officers were thanked for their good work in the past.

Mr. Gronow spoke on Institute matters, and the meeting closed at midnight, although it is understood that 3 a.m. was the average retiring time! On Sunday visits were made to the local ham shacks, 3BO and 3CV B Class stations and the gold mines. Both the present and past presidents were invited to speak over the air from 3CV. This was readily accepted. It was late in the afternoon before the gang finally broke up to go home. The president of the zone wishes to thank all those who helped to make the convention such a wonderful success, and we are looking forward to yet another one next year.

## Divisional Notes

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To ensure insertion all copy must be in the hands of the Editor not later than the 15th of the month preceding publication.

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### N.S.W. Division

#### GENERAL MEETING.

At the general meeting held on 20th April, the Senior Radio Inspector (W. T. S. Crawford, Esq.) presented the trophy which bears his name to the best amateur telegraphist in N.S.W. The winner of this year's contest was VK2ZK.

In making the presentation to Mr. Henry, Mr. Crawford referred to the high standard of operating of many of the entrants and made "honourable mention" of the two runners-up. At the same time Mr. Crawford stressed the importance of being a good telegraphist, and of the consequent extra enjoyment to be had from operating one's amateur station, because good telegraphy would lead to snappier and more frequent QSO's. Mr. Crawford went on to say that he often spent quite a lot of time listening in on short waves and enjoyed copying good Morse.

In his closing remarks Mr. Crawford spoke of the good feeling which exists between his department and the Institute. He also expressed the opinion that the Vigilance Committee was doing a good job, and helping to make the bands better for everyone.

The chairman, VK2HP, thanked Mr. Crawford for coming along to present the trophy to Mr. Henry. Mr. Peterson assured Mr. Crawford of always being very welcome at any of the meetings. A hearty vote of thanks was carried with acclamation. Mr. Henry now becomes the outright winner of the trophy, having won it this year for the second time in succession.

The trophies for the 1938 VK-ZL Contest were on view at the meeting. Complete results for that contest appeared in "Amateur Radio" for May. Mr. Crawford said that the

trophies reminded him of a N.R.A. prize meeting at Liverpool, and complimented the Institute on providing such a fine array of prizes.

Mr. J. B. Corbin presented the report of the delegate to the 1939 Convention held in Melbourne in April. The presentation of the report occupied the business for the rest of the evening. At the conclusion of the meeting Mr. Corbin, VK2YC, was elected Federal councillor for the ensuing year, 1939-40.

#### U.H.F. SECTION.

This section is being reorganised in view of the large amount of activity on this band these days.

Some body is necessary to co-ordinate the work of these experimenters. Meetings will be held on the first Thursday of each month at the Y.M.C.A. Buildings, Pitt street, at 8 p.m., and all interested are invited to attend. A recent fine performance on this band was that of 2VU at Singleton who logged 2LZ at Wentworth Falls, a distance of .00 miles.

2BN says he will be getting going again soon now that he has settled down to married life.

How's that car 2AHG? Why not sell it and try Ham radio again for a change?

2RA.—QRL with military and the flu last time I saw him. Saw his W.A.S. Certificate and went home with new ideas on how to get "WAS."

2VN worked FA3QV on 7 mc a few mornings ago at 0710 East.

2VA also finds 7 mc good in the early mornings.

2NO and 2MQ very keen about 5 metres. Big things will be done by these two men shortly.

2AIK gets out on 7 mc very well, in between typing with one finger and giving the kids "paddy whack." The school holidays are on now.

What a break for his pupils, and for Cec. too?

2TI and 2AFJ and a couple of others worked W6QQJ Nevada, to help their W.A.S. Certificates materialise. 2TI 46 States now.

2KZ hopes to get on the air again soon, in between trips to the country. Why not put a portable in one of those railway trucks Arthur?

2EO.—Guess your in F.C.T. now Dave. How would you like to put that transmitter in the ham bands?

2HF is learning to fly, the idea being to save about four hours a day in travelling to work from Manly to Parramatta, and thus have a bit of time left for ham radio, so we understand, anyway.

"Thus news is made."

## COALFIELDS NOTES.

(VK2KZ.)

VK2YO.—Busy at present building the 2JU super, also 80 metre rig, using phone on 20 metres; also has designs on two half waves in phase, would like a call from anyone using 807 as buffer as 807 at YO is not so hot.

VK2XQ.—Now fairly active on 20 metres around 14370 kc, has a nice new rig with 801 in P.P., sure puts out a fine signal, also building an 80 metre job, as the boys here are going to get together this winter.

VK2XT.—Still inactive, due to not being able to find a suitable abode as yet, but threatens to build himself a shack and pay no rent.

VK2DG.—Using phone now on 20 metres, just received his DX Century Club Certificate, number 112, good going OM, doing a good deal service work, etc., using yet the good old zeppelin antenna.

VK2YL.—Has entirely rebuilt his rig and now looks swell and gets out nice too, heard regularly on midday schedules using phone on 20 metres; has four different types of antennas.

VK2PZ.—Also fairly active on 20 metres using phone. When are you going 10 metres Chris.

VK2MK.—A new amateur to this area who is operator on 2CK local commercial station; not active as 2YL has his rig.

VK2CX.—Very active on 20 metres, just left 40, and getting a fair deal of DX.

VK2ACG.—Also on 40 metres and a clobber of 2CX, doing plenty of

work on 7 mc, but also coming to 20 metres.

VK2KZ.—Regular attendee on 14 mc, has designs on the 2JU modulator, also going to 80 metres for winter; several of this zone will be on 80 metres cw and phone, commencing the first Sunday night in June, from 8 to 10 p.m., and every Sunday night thereafter till winter ends, so anyone interested, please look for this zone.

The whole zone going to Newcastle on 21st May to visit the whole of Newcastle gang, and through the kindness of 2AES and 2BZ of Newcastle arrangements are finalised, and as a dozen hams going along with XYL and YL's included, we pray for a nice sunny day.

## ZONE 5 NOTES.

(VK2IG.)

Conditions here are very much the same as last month, contacts being easy on all bands but not so much real DX about, though we have landed an odd one or two which we will comment on in the DX section.

The hams in this zone are relaxing and having a well earned rest after having done nothing for the past few months, so that news of them is of a rather restricted nature.

VK2OJ is still sighing for a rotating beam, but he put up his 70 foot stick when there were no neighbours, now there are houses all around and he doesn't know how to get it down. (Tech. note—Release guy wires.)

VK2QD has finished something before the enthusiasm ran out. Has completed a nifty split stator condenser. He might sunday even complete his xmitter at this rate. Congrats Hilton om., it's a nice job.

VK2AID doing nice work with grid mod. fone. Visited Albury recently and had a busy afternoon. Also had a demo how to work DX, hi! hi!

VK2AEO is on night shift and chases the DX at all hours, but N.S.G. The YF chases Pol and catches him O.K. though. Notwithstanding the rolling pin Pol manages plenty of DX at ordinary times.

VK2EU has his amplifier working FB, but appears to be waiting on the rx to fix its self. Wishes VK would come home so that he could borrow his rx.

VK2AP has a listen at times, but can't find time to put up the rig yet, but hopes to be active again soon.

VK2IG working the W's with a beam over the South Pole or is it a beam! Anyhow it gets there when other VK's don't and gets tired when the VK qrm starts in W land so that suits us fine.

## BORDER DX NOTES.

(VK2IG.)

QSO's at odd times seen to be the order of the day here still. Although it is becoming commonplace to work the U's at lunch time. We also worked W3FRY at around 1 p.m. at R6 both ends and he also remarked on the unusual time. It seems that W and Europe can be worked at any time of the day now but the field of the antenna has to be pointed in peculiar directions and not according to the book.

Pride of place goes to TF3F QSO's at about 4.30 p.m. on 14425. Among the U's are U2NE, 14405. U5YH in Crimea from 14410 to

14395. U3CU and U3CY on 14395. In South America we have PY2CD and PY1AH on 14345 with PY1AL around 14385. HC1HM on 14400. CP1XA on 14410. HI6Q, 14410. HJ5AR and VP6YV around the other end of the band on fone heard, but not worked. Others are CM2BZ on 14415 and CM6DV on 14420. XZ2AB on 14360. HR2ON, 14395. ZC6RL on 14360. IIIR is also on 14400. CN8AY, 14400. VO3X, 14385. GACD T-nought around 14370. YV1AD on on 14365. CT1IT, 14370. HB9L on 14365. All these are among the more common ones. VQ3TOM is on again as is MX3A. LU3HK on 14360. In the U.S.A. Island Groups are several stations who are not using the new prefixes. K6ILT and K6PMP appear to be on Guam. KC6BVL on Wake Is. is on 14365 and said he was having his first VK contact from there. Times of these are not given as they come in at all odd times, but if any one wants this information I will be glad to supply it.



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## Victorian Division

### KEY SECTION NOTES.

After browsing through the efforts of other columnists, your correspondent feels himself at a distinct disadvantage in the compilation of this monthly screed. In the first place he is not in receipt of a fat weekly stipend, which in itself is a wonderful incentive (Ed. please note), and, secondly, he has not been in receipt of even one letter, abusive or otherwise, during the whole period of office. Compare this with the lot of the commercial scribe, who, when stuck for an idea has only to open up a few letters from the morning mail, and is sure to find something from "Fair Play," of Upper Oshkosh, with enough material to fill a couple of fair-sized log books, and to keep the wolf from the door for another week or two. The best that has happened to your correspondent is a secondhand report that some nitwit from the country had read these notes, and was of the opinion that your correspondent was a bull-dust artist of the first water. Now, I ask you, is that constructive?

The Convention held at Bendigo recently was a great success, and saw a big rally of country boys. Only a few of the city hams were able to get along, but the ones who did were rewarded by a very enjoyable week-end. Among the country boys present was XU, who also attended the Key Section Meeting on May 2nd, driving 75 miles for the purpose. Nice work! He is doing a little on 7, 14 and 28 mc., but is not particularly active at present. And, talking of bands, RJ wants to know why they stretch on Sundays. They may stretch a little, but your correspondent is of the opinion that they are not nearly as elastic as they used to be especially among the Europeans during a DASD Test.

UQ reports himself as "T5 and hums." Suggest that he gets in touch with W6MUM, from whom CZ received a very snappy card containing one only female, undraped, and obviously extolling the virtues of the product, the name of which coincides with his call.

Satisfied that he conforms to the definition, AH is building a Poor

Man's Rotary Beam. RX, having cornered the market in spotted bamboos, is also in the throes of erecting a non Aryan array. DP's super-gainer is still working, and bringing in a little DX on 14 mc., while QS, having built a similar receiver is now looking for the gain. Often very elusive, that "gain" in super-gainers.

IW is threatening to hibernate for the winter, owing to the poor conditions on 14 mc., and RN, who finished his new rig on that band, has abandoned it in favour of 7 mc. EB has apparently given up motor boats for the present, and has rebuilt his rig, 6A6, 6L6, 809, and is now laying in wait for any unwary DX that may poke its head out of the jungle of QRM on 14 mc. JI is in the same box, and FR is rebuilding his receiver. SG is thinking of a new rig, but at the thinking stage only, while UM is still working on his new band switch exciter. ZH is not as active as formerly, reports having a new hobby, but whether beer or women, we know not. PJ is also inactive, but the cause this time is more definite—distant sounds of wedding bells. Which reminds your correspondent that he has just reached the third anniversary of his own nuptials. Feels more like thirty!

After a couple of years' absence, WB is on again with 30 watts on an 807 final on 14 mc. OU has spent some time on a \$13 oscillograph, and operation of doubler and modulator stages is now as rigidly controlled as the importation of Asiatics into Australia. QW has at last cleared the bugs out of his super, and is now 7 mc. The fact of the bugs having taken residence in the BCL set instead is of little moment. SQ is looking for a good receiver to wipe out local QRM, and so joins the great majority who, like the poor, are always with us. NI has gone to VK6, while ZU is fairly active on 14 mc phone. IK is rebuilding for rack panel operation, so has his hands full.

YK is again on 3.5 mc., using a half wave Zepp, and with 4 watts input receives consistent R8 reports from ZL. MR has left the big city for a few weeks' holiday with Bruce Mann, of Quambatook. Probably

will not be such a holiday for Bruce!

Your correspondent has to report his amplifier as still working well, and showing up the terrible quality of 99.9 per cent. of ham phone stations on 7 and 14 mcs. Supplies of brickbats are hopelessly inadequate to fill the demand that exists, to say nothing of the physical efforts which your correspondent would have to make in order to ensure them reaching their marks. The problem of dealing with the situation remains at present unsolved, but inasmuch as the pen is mightier than the brickbat, the great thought for the month is herewith presented:—How to win friends and influence people: Keep off phone on 14 and 7 mcs.

I thank you!

### U.H.F. SECTION NOTES.

(By 3JO.)

Section meets third Tuesday each month at the W.I.A. Rooms at 8 p.m.

A welcome visitor to Melbourne during the month was Gil Miles, 7KQ, who did so much about three years ago to put 56 mc on the map in VK3. A special meeting was hurriedly arranged for 8th May, and in spite of the short notice, was well attended and acclaimed a success by all.

Gil told us many things, of which the most outstanding are:—The lack of 56 mc activity in VK7, the blizzard weather that has been with them on their various field days on Mt. Wellington, the improbability of consistent 56 mc DX due to its dependence upon refraction in the upper atmosphere, the impossibility of accurately forecasting just when and where these conditions will exist,

the necessity for continuous transmission and a chain of observing stations as a means of elucidating the mystery (?) of 56 mc, how the alteration of a few feet in the position of the antenna may have a large effect in bringing up the signal strengths, and how attention to detail in the construction of 56 mc gear is necessary for best results. Gil also expressed disgust at the continued use of super regen. receivers and praised the resistance coupled I.F. super het. These sentiments are well known to all who were on 56 mc about three years ago, but were new to the majority of those at the meeting.

It was determined as an outcome of this meeting to push ahead as soon as possible with the 3WI 56 mc transmitter and to keep in touch with Gil on 7 mc as much as possible. 3PS intimated that he would secure information on the "universe thermal activity" of the atmosphere in the vicinity of Melbourne and would make this known on 56 mc transmissions.

The statement by Gil that 56 mc working beyond the visual range would never be consistent owing to its being at the mercy of the elements, whose vagaries cannot at present be accurately foretold, may possibly dampen the ardour of some of the DX chasers. Let us here point out that chasing that elusive 56 mc DX is only one of the reasons for the continued requests for more widespread use of these frequencies. Amongst other reasons are the great amount of observation work still required to ascertain the extent to which atmospheric variations affect the various paths traversed by the

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signals, the development of the gear used to a higher degree of efficiency and the more extensive use of these frequencies for local contacts. In these days of crowded DX bands and restricted use of phone, this latter reason cannot be too highly stressed. For the ham who is weary of these restrictions and is fond of lengthy discussions on radio matters with his friend in the nearby suburb, this band offers a haven of refuge.

## WESTERN ZONE. (VK3HG.)

3SC.—Heard on 7 mc phone with nice signal. Glad to hear a station from Camperdown active.

3TW.—Fractured his last crystal and now experimenting with E.C.O., but with varying results.

3TN.—On 7 mc now and then.

3DD.—A regular on 14 mc phone, but heard lately on 7 mc with terrific signal.

3BU.—Schedules 3WT daily on 7 mc and very active on 56 mc.

3VN.—Co-operating with the above stations on 56 mc.

3BW.—Another who is active on 56 mc.

3IL.—Turned up on 3.5 mc and expects to have the AC on soon with a 6,000 volt transformer right in the back yard.

3SZ.—Installed a dynamic mike, but having trouble with RF feedback.

3OW.—Active occasionally on 14 mc phone. Has new receiver perking. More interested in obtaining flying licence at present.

3HG.—Blew tubes in receiver. Has 116 foot stick on order and hopes to get it a vertical position soon with three V beams strung therefrom.

## NORTHERN ZONE NOTES. (By 3BM.)

At the very successful Northern Zone Convention, reported in another column, Mr. R. Trebilcock (VK3TL) retired from the office of president, and Mr. E. Perkin (VK3EP) was elected. The correspondent, Mr. T. Hogan (VK3HX) retired, and B. Mann (VK3BM) now takes up the pen.

3OR.—With genemotor repaired and a E408N replacing the ancient 10, Murray's 80 and 40 phone and CW are back to their former excellent condition.

3TL.—Resigned Zone presidency after a very successful year's work, but Treb remains as key station on Sunday a.m. hook-ups.

3EC.—Has the 20 mx rig going O.K. and is working DX phone.

3ZK.—Jim has been rebuilding the rig throughout. Quality never varies.

3HX.—Tom is very busy. Floods almost invaded his shack.

3TT.—Bill is heard on 80 mx phone at excellent strength and quality on only 1½ watts!

3QZ.—Graham Colley in an enthusiastic newcomer in Quambatook, using 6L6G, 807 combination with 230 D.C. on plates. By the way, Graham is the power station engineer, and has erected a pair of beautiful 76 feet sticks.

3EP.—Congrats. on Northern Zone presidency. Ted has changed his QRA in Bendigo, but has not re-erected his sticks yet. His good work was partly responsible for the success of our convention.

3WN.—Jack is very busy, but is occasionally in the Sunday hook-ups.

3NN.—Congrats. on the birth of a son and heir, Herb. That new vibrator power supply is working O.K.

3QC.—Bruce assisted greatly towards the convention's success.

3IV.—Has left Birchip and is now Stawell's only ham.

3CH.—Alf is threatening to rebuild and stage a comeback, but at present the 2nd op., Clyde, is doing most of operating there.

3BG.—Roth is complaining about the poor condx on 20 mx.

3CD.—Was at the convention, but never heard on the air.

3IH.—Fenton is in the city now.

3JG.—Johnny works DX on a large European V beam when he feels the urge.

3DU.—Doug has a portable rig which puts out a fair sig. on 80 and 40 from Clydesdale.

3EF.—Working 40 and 20 DX on the key! But Bert is seldom missing on 40 mx phone.

3CE.—Roy has some new batteries, and is on the job again. Is revamping the RX, and contemplating V beams. Is awaiting the advent of A.C. to Bellwilllock..

3LL.—Ken is busy at the University.

**3VP.**—Chas. has a beautiful rig remotely controlled from the lounge fireside.

**3BM.**—Has 3MR with him at present. "Snow" was surprised to find both a key and a BFO!

## EASTERN ZONE NOTES.

The Eastern Zone Convention will be definitely held at Sale on June 10th and 11th. A most interesting programme has been arranged, and a cordial invitation is extended to all, and quite a number of members from other zones have signified their intention to be present. Places of interest will be visited on the Sunday, including stations 3TR and 3GI. As the date fixed is the King's Birthday week-end, it should offer the advantage of a long week-end holiday for those who care to stay, as there is plenty of places to interest in the district. Those intending to make the trip are asked to notify VK3XH of their intention immediately so that arrangements for accommodation can be made.

Now for some of the members' doings:—

**3DI.**—Jim QRL with service work and YL.

**3EA.**—Where are you, Evan?

**3GO.**—Reported to be making a come-back.

**3LY.**—Ron has gone and got married. Might have more time for radio now!

**3NO.**—George still QRL at 3TR.

**3SS.**—Keith on 80 occasionally. Quality not too good, O.M.

**3VG.**—Howard has at last got going on 80 mx, fb, O.M.

**3XH.**—Stan on occasionally. Just shifted QRA.

**3QB.**—Jack still working on 40 mx. When are you coming on fone, O.M?

**3DG.**—Dick back on 80 mx after working on 20 mx for months.

**3XZ-3HZ.**—Where have you two B.C. engineers got to?

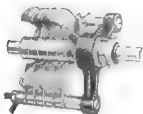
**3PR.**—Trying out Cathode bias modulation.

## Queensland Division

(By 4ZU.)

**4FL.**—Off the air for a few weeks, rumoured rebuilding using 6P6, 807, 809.

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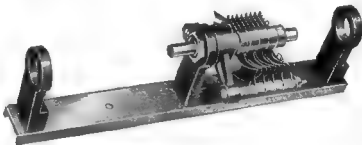


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## South Australian Division

(By 5PN.)

4DK of Winton in QSO with 4FJ says its very cold out there but condx good.

4WB staged a comeback with 6V6, 6P6, 45, and is using good old series modulation. Ask 4FJ.

4EL mopping up Europeans on series modulated phone, input 15 watts. Eric has 112 countries now. Nice work om.

4JJ.—Jim very inactive of late, reckons he is going to give the rig to the baby to play with.

VK4HP just built a super and got pair of 6V6G's in final working to satisfaction.

VK4OJ.—Very active on 40 mx and is contemplating a super prior to going down to 20.

4FJ expecting super from overseas. Needs it badly owing to local qrm.

4GS.—Knocking off sundry W's on 14 mc phone.

4LK of Cloncurry down on visit to VIB with YF. Kept skeds with Brother Roy 4DK from 4EN.

4WJ staged a comeback. Just some more qrm for 4ZU.

4PX spends spare time chewing rag with 4GC—or is it 4GC?

4HU.—George's QTH is now miles. Hope to hear you on the air soon om.

4XR.—Waiting on junk from the south to get 50 watts going. Ask him who Dot is.

4XO.—QRL, but spends spare time riding 4XR's motor bike around.

4KK.—Keith of Milmeran was up in Bundaberg recently and was entertained by 4XO and 4XR.

2AGN has shifted QTH from Murwillumbah to Bundaberg, but does not seem in a hurry to get on. What's wrong om?

4JF, EL, FJ, ZU and UU all installing key click filters. What's come over the boys?

4AP heard testing on 14 mc fone.

4ZU trying out merits of vertical antennas.

4WT.—Bill seems to be extinct lately. We would like to see your cheery face up at the W.I.A. general meetings om. Wot sa?

The chief event of recent weeks was the emergency organisation try-out on 7th May. The emergency men were called on 80 mx at 1.15 p.m. and were assigned various locations by the control officer, VK5JT. They were to proceed to those locations as quickly as possible and get on the air. They did so in remarkably good time and although the try-out was not 100 per cent. perfect it was entirely successful in that it showed up the little weaknesses in organisation and indicated the lines to follow in order to arrive at the goal towards which the emergency section has set its face, i.e., prompt and efficient establishment of an emergency communication network in any part of the State.

Those who took part in the try-out included VK5LC at Gladstone, 5KJ at Yundnapinna, 5JT at Burnside, 5FM at Mt. Lofty summit, 5LX aboard M.Y. "Pioneer" at Outer Harbour, 5DW assisted by 5RW, 5XA and Cec. Bareby at Blackwood, 5LD assisted by 5RK at Lobethal, 5RI operated by Dick Batye and Jack Scriven at Smithfield, 5KL assisted by 5BC and 5GB at Northfield, 5BF assisted by 5BG at Monarto South, and 5RN at Mt. Lofty.

### GREY ZONE.

(By 5LC.)

Paid a visit to 5RJ and 5HR and had a great time. Darce has a fine rig and now has a key in after about ten years of phone, hi! Bill has a very neat station, although the after effects of the fire can be seen.

5KJ still on but plant batteries went flat and had to come on with 2 watts on 80 mx with the QRR test Sunday p.m.

5GU.—Met Bob at Kadina and he is making a very fine job of his new rig.

5LC.—Was on 80 mx during QRR test on Sunday and worked 5JT, 5KJ, 5BF and 5RN, but at 1 p.m. it was like listening on the 5 mx band hi! heard 5LX.

Two country members in the city at time of writing are 5RE and Ron Green, both from Renmark. Hobby has gone all hot on home recording, so if you hear yourself on the air

at Renmark some day whilst you are snug at home don't be fooled into believing that it is a proof of reflection of radio waves from the utmost limits of space—about ten light years distance away—it is only the Old Man of the Murray up to his tricks.

## Western Australian Division (By VK6WZ.)

Division meets at 8 p.m. on second Tuesday in the month at Headquarters, corner Hay and Milligan streets, Perth.

Principal item of interest this month is the five metre field test run off during the long week-end (29th April-1st May inclusive) when a new distance record was created for the band. Further details elsewhere.

At the May meeting a good deal of business was transacted and the meeting was a long one. Discussion was long and varied and covered such subjects as the possibility of opening a "fighting fund" (see 5FM's letter to "QST"), five metre work, the extension of the Division's library, the inauguration of a campaign to liven up Institute activity and strengthen membership and last, but by no means least heated, a discussion on "A.R." It seems that old misunderstandings are still allowed to influence the actions and opinions of some of our members and that all appeals to support the Institute's organ and give it a chance to flourish as it deserves fall on hostile ears. 6WZ pointed out that it should be to the shame of V6 members that while the circulation in this part of the Commonwealth is very low, one Perth radio firm can at least support the mag. to the extent of advertising in it.

Still further discussion raged around the point of increasing the annual sub. from 10/6 to £1/1/- for full members to bring the Division into line with others and to relieve a rather strained financial position. It would appear that it's a case of "pay a guinea or move to cheaper premises." Notice of motion given by 6CC on this point for the annual general meeting for June and a suggestion received from 6YB (but recently returned from the East) that if that increase be made, "A.R." be included. Hope dawns! But me-

thinks June will see a stormy meeting.

Undamped waves:—

Feverish activity on part of all VK6's capable of making any sort of noise at all on 7 mc. Reason? That 809 donated by 6BB for the 14th.

6JC attended the May meeting which fell within school holidays. Just before leaving Chas. crik had some trouble with rig and had to miss all skeds; hopes be back on return.

6KS debating relative merits of banking and talkie projection as life pursuit. (Say, who wants to take home bits of film, anyway?)

6CX deputised for 6MW at May meeting and assured all questioners that he'd be on for the 14th.

6AF rebuilding.

6ZX determined to have more of this thing called five metres.

6FL finds life compounded of service work, flu, cricket, tennis and ham radio. Thinking of putting converter ahead of his super and listening on five.

6BB preparing (in conjunction with 6WZ) thesis on behaviour of cats mc. radiations! Black ones, especially.

6YL heard on 7 mc now and then. Rumours of a modulator being built.

## Tasmanian Division

(By 7YL.)

As the hon. secretary was in Melbourne attending the Convention, the meeting which was to have taken place during his absence was postponed until his return a week later. The results of the Convention were then made known and presented in a clear concise manner by Mr. Moorehouse.

The annual meeting and dinner are drawing near. At present it has not been decided where it is to be held. It is hoped that not just a few hams of both North and South will come, but amateurs and enthusiasts from every part of the Island. We know in some cases it is most difficult to obtain means of transport, and that often the bank roll (or should I say lack of bank roll?) hinders our progress, but as the annual dinner and meeting occurs only once a year, perhaps a little extra effort will do the trick, for, after all, who can keep a good ham down?

There is a huge stack of Qsl cards at the Qsl Bureau for non-members. Some are from quite f.b. dx stations. Unfortunately the stack is growing, so that it will soon be necessary to either extend the premises of the Qsl Bureau or to add the rubbish cart's load. Owing to financial reasons, the latter course will have to be adopted. After all, hams who are not member of the Institute have only to send along their addresses and a stamp to obtain the cards. This surely is not a very difficult task. Would anyone knowing the present address of Roy Jonasson, ex-7NG, please let the Qsl Manager have it, as his forwarding address has been mislaid, and there are about fifty cards here for him.

Condx. in Hobart are very patchy on 40 mx, but are definitely improving on 20 mx. The cw dx lately has been quite respectable, OA's, CE's and CX's coming through at R5.

VK2ADI, who is among the officers journeying to England to bring back the new Australian cruiser, "Perth," was in Hobart for a day or so this month. He visited one or two hams, but had very little time unfortunately. Will be returning via America, and intends to visit as many W's as possible.

## "Doings."

7CM.—Chases dx at early hours of the morning. Total of countries worked is now well past the fifty mark.

7AL.—Tom has evidently been making a noise in W, judging by the inward Qsl's. Spent a few days in Camp lately, we believe.

7CT.—Is very qrl again. Better not skip parades now you are a military man, Terry.

7JB.—Hopes to be transferred to VIH soon. Having been unavoidably inactive for 5 months, thinks he has probably forgotten how his rig works. I know an excellent instructor, Buck, hi!

7YL.—Has added an rf stage to receiver, which brings almost inaudible signals up to the R7 mark.

## NORTHERN ZONE.

(By VK7LZ.)

This Zone hopes to have an exhibit in the Electrical and Radio Exhibition to be held in the Albert Hall, Launceston, and which will be in

full swing by the time these notes are published.

The Department has been approached, and we have every hope of having a transmitter on the air from the Exhibition to give the general public an idea of our activities.

If everything is realised to our satisfaction, we will give full details of the exhibit in next month's notes.

As this month is the last in our financial year, our secretary has asked me to remind our readers not to forget their outstanding accounts, and to remember that they will be bigger still next month if not attended to in the meantime.

I am quite satisfied now that wonders will never cease—I can at last give you some of the doings of our members of the Nor-West Coast per favour of VK7RY. Keep up the good work, Ted!

VK7RY.—Off the air at present owing to the fact that he is at present stationed at Devonport.

VK7XR.—Now on 20 metres and working plenty of Yanks and a bit of good DX. Getting your outgoing cards O.K., Johnny.

VK7CK.—Am led to believe the long delayed power has arrived, Poley. A bit of rebuilding, what?

VK7KR.—Rebuilt his transmitter with great success on all bands.

VK7AB.—Working Yanks on 10 metre phone in fine style.

VK7RK.—Rebuilding his receiver and now going in for a super.

VK7CJ.—Busy swotting for an exam, and building big key-lick filters.

VK7CL.—On holidays at present, and on the air once again.

VK7GJ.—Getting ready for phone operation now his probationary period is over.

VK7LG.—Rebuilding transmitter on commercial lines.

VK7DS.—Having trouble getting his transmitter to perk on 20.

VK7LZ and VK7XL.—Not been heard on the air yet to my knowledge.

VK7HY.—Talking motor boats.

The next meeting of the zone will be held at the Launceston Y.M.C.A. on the 29th June.

## New Guinea Division

(By 9VG.)

Condx this last month have been patchy, with only W's and one or two Sth. Americans putting in any signals at all. Due to a hefty pwr leak your humble was off the air for about ten days, but did not miss much by all accounts. The VK's cannot be wkd from hr now with any consistency, and even when we do get hooked up the reports are not very good. 9WL had a sked with a VK7 and to his surprise it came off. Talking of VK7, reminds me that I once wrkd one and the only one in two years on the air hr and the qsl is still coming! I hate to bring up the old topic again, but 9RM was up to see me to-day as he tells me in the last two months he has sent down to VK over 80 crds es so far has only received three in return. He is flat out to make a nice showing of crds on the wall of the shack. His own card took many hrs of patient work to make up, and a very expensive one at that, so what about it, chaps. At least try and keep your promise to qsl.

Now for some of the doings of the VK9 qrm gang.

9XX.—On the air again at last, and vy fb too Basil oc. Hrd frm one of the local SWL chaps you were on, Basil. Could not believe it till I hrd the stir among the W's to-night. Fb. oc and vy pseed to hr you are ok again now, and all good dx be yours. Looking forward to hearing you on 40 om as we need a station over your way on 40 badly. Ur letter arrived ok, tnx a lot. New antennas seem to be the main these, with the "Poor Man's Rotary" a hot favorite.

9DK.—Ernie tells me the way dx is now it is hardly worth while going on. In a recent 7 mc qso Ernie told me he could not get above 23 countries. Well, when you think that this was all done with 6 volt batteries and genemotors I reckon it a vy creditable effort. Every other W I wrk now passes on his 73 to 9DK.

9WL.—Still having trouble with converter now and again but still keeps on the air. Laurie missed a nice bit of dx when CO7 called him when he had gone off the air. Never mind oc he will come again sometime. Laurie had a bit of bad luck

a few days ago in charging one of his power producers backwards for ten hrs, but now has a larger one in place of it, so why worry?

9BW.—Bill is either rebuilding or deciding to put up an antenna or go South. He now has 50 countries all but one, and some vy fb ones at that, but the way the other lads up hr are talking of beam ants, etc., it won't be long before someone takes the lead.

9GW.—Last month we rushed in to print with news of the fine new shack, but as far as is known the rig is still unpacked. I guess I'll have to drop you a line oc es see what is doing.

9MC.—Last hrd of Bill he was shifting and had found a good possey with some nice handy t rees and hopes to do well there. Not only with dx though and we all wish you luck! oc.

9RC.—Pops up on 40 for a rag-chew now and then. Also reports wrking K6 on 40 metre cw which same is fb. Let's hope it keeps up, Ron, and more pwr to your batteries.

9RM.—It took quite a while to get Peter off the qsl argument, but on a promise to give it mention in the notes this time we got down to dx at last. It seems that he is out to low the record for the most W's wrkd in a month, as he is going strong at about fifteen a night, getting in a few VE and K6 chaps for a chance. Rose at 6 a.m. one morning and pulled in ON4AU and next night an SM7 fell into the clutches.

9NB.—Starting from the ground up, as he is building his ant tower first, and it is going to be a three section rotary with steering wheel es points of the compass n' all. Also decided (or rather went haywire) and sent for an RME70 all in a few minutes. More later about this as construction progresses.

9HB.—Apart from sending for a Howard rx, Harley has not made a decision as to the rig he is going to cuase all the dx chaps to sit up and take notice, so we will have to try again next month.

9DM.—Nearly forgot you, Dudley, this time, but what is doing down your way? The last time hrd you were on 40, but had gone before I got to you.



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